

IN THE CLAIMS:

The following is a complete list of the claims. This listing replaces all earlier versions and listings of the claims.

Claim 1 (previously presented): An image processing system comprising:

calculating means for calculating a degree of similarity from among a plurality of image frames of dynamic image data;

designating means for designating a length of a digest dynamic image;

determining means for determining scene-change frames based on the degree of similarity calculated by said calculating means; and

dynamic image means for performing automatic editing and preparation of the digest dynamic image of the dynamic image data of the designated length by merging frames for a specified duration of each scene delimited by a scene change.

Claim 2 (previously presented): The image processing system according to claim 1, further comprising:

detecting means for detecting blank scenes; and

exception processing means for performing exception processing in which an initial image frame after exclusion of a blank scene detected at the beginning of the dynamic image by said detecting means is deemed a scene-change frame.

Claim 3 (previously presented): The image processing system according to claim 2, wherein said exception processing means also performs exception processing in which a final image frame after exclusion of a blank scene detected at the end of the dynamic image by said detecting means is deemed a scene-change frame.

Claim 4 (previously presented): The image processing system according to claim 3, wherein when a time duration for each scene-change frame of two scenes in close proximity is less than the specified duration, frame information from a scene-change frame of the first scene and frame information through a frame from the scene-change frame of the second scene are treated as the result of merging of the scene-change frames of the two scenes into one scene whose duration is equal to the specified duration.

Claim 5 (previously presented): The image processing system according to claim 4, wherein when the duration of the scene-change frame of the second scene to be merged falls within a specified duration of the scene-change frame of the first scene, all the frame information of the scene-change frame of the second scene are merged with the scene-change frame of the first scene.

Claim 6 (previously presented): The image processing system according to claim 5, wherein when a mode which provides a target duration for the completed digest dynamic image has been indicated, a digest having a duration in the vicinity of the target duration is prepared by first finding all of the scene-change frames of the dynamic image, and then performing processing for merging scenes into the digest, preferentially beginning

with scenes whose scene-change frame has a low degree of similarity to the immediately preceding frame or some preceding frames.

Claim 7 (original): The image processing system according to claim 6, wherein when there are few scene changes, and the digest dynamic image is more than a certain threshold value shorter than the indicated duration, a digest having a duration in the vicinity of the target duration is prepared by gradually increasing the specified duration for addition of each scene.

Claim 8 (original): The image processing system according to claim 7, wherein for a dynamic image for which no scene change has been detected, if there is a blank scene at the beginning of the dynamic image, the blank scene is excluded, and frames are extracted from the first non-blank scene for the target duration and treated as the digest dynamic image.

Claim 9 (previously presented): An image processing method comprising the steps of:

- calculating a degree of similarity from among a plurality of image frames of dynamic image data;
- designating a length of a digest dynamic image;
- determining scene-change frames based on the calculated degree of similarity; and

performing automatic editing and preparation of the digest dynamic image of the dynamic image data of the designated length by merging frames for a specified duration from each scene-change frame.

Claim 10 (previously presented): The image processing method according to claim 9, further comprising the steps of:

detecting blank scenes; and
performing exception processing in which an initial image frame after exclusion of a blank scene detected at the beginning of the dynamic image in said detecting step is deemed a scene-change frame.

Claim 11 (previously presented): The image processing method according to claim 10, further comprising the step of:

performing exception processing in which a final image frame after exclusion of a blank scene detected at the end of the dynamic image in said detecting step is deemed a scene-change frame.

Claim 12 (previously presented): The image processing method according to claim 11, wherein when a time duration for each scene-change frame of two scenes in close proximity is less than the specified duration, frame information from a scene-change frame of the first scene and frame information through a frame from the scene-change frame of the second scene are treated as the result of merging of the scene-change frames of the two scenes into one scene whose duration is equal to the specified duration.

Claim 13 (previously presented): The image processing method according to claim 12, wherein when the duration of the scene-change frame of the second scene to be merged falls within a specified duration of the scene-change frame of a first scene, all the frame information of the scene-change frame of the second scene are merged with the scene-change frame of the first scene.

Claim 14 (previously presented): The image processing method according to claim 13, wherein when a mode has been indicated which provides a target duration for the completed digest dynamic image, a digest having a duration in the vicinity of the target duration is prepared by first finding all of the scene-change frames of the dynamic image, and then performing processing for merging scenes into the digest, preferentially beginning with scenes whose scene-change frame has a low degree of similarity to the immediately preceding frame or some preceding frames.

Claim 15 (original): The image processing method according to claim 14, wherein when there are few scene changes, and the digest dynamic image is more than a certain threshold value shorter than the indicated duration, a digest having a duration in the vicinity of the target duration is prepared by gradually increasing the specified duration for addition of each scene.

Claim 16 (original): The image processing system according to claim 15, wherein for a dynamic image for which no scene change has been detected, if there is a blank scene at the beginning of the dynamic image, the blank scene is excluded, and frames

are extracted from the first non-blank scene for the target duration and treated as the digest dynamic image.

Claim 17 (previously presented): A recording medium recording program code of an image processing method comprising the steps of:

- calculating a degree of similarity from among a plurality of image frames of dynamic image data;
- designating a length of a digest dynamic image;
- determining scene-change frames based on the calculated degree of similarity; and
- performing automatic editing and preparation of the digest dynamic image of the dynamic image data of the designated length by merging frames for a specified duration from each scene-change frame.

Claim 18 (previously presented): An image processing system comprising:

- calculating means for calculating a degree of similarity from among a plurality of image frames of dynamic image data;
- determining means for determining scene-change frames based on the degree of similarity calculated by said calculating means; and
- dynamic image means for performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging a specified duration of frames having a low degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a dynamic digest.

Claim 19 (canceled)

Claim 20 (previously presented): An image processing system comprising:

calculating means for calculating a degree of similarity from among a plurality of image frames of dynamic image data;

determining means for determining scene-change frames based on the degree of similarity calculated by said calculating means; and

dynamic image means for performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging a specified duration of frames having a high degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a quiet digest.

Claim 21 (canceled)

Claim 22 (previously presented): The image processing system according to claim 18, further comprising:

detecting means for detecting blank scenes; and

exception processing means for performing exception processing in which an initial image frame after exclusion of a blank scene detected at the beginning of the dynamic image by said detecting means is deemed a scene-change frame.

Claim 23 (canceled)

Claim 24 (previously presented): The image processing system according to claim 20, further comprising:

detecting means for detecting blank scenes; and

exception processing means for performing exception processing in which an initial image frame after exclusion of a blank scene detected at the beginning of the dynamic image by said detecting means is deemed a scene-change frame.

Claim 25 (canceled)

Claim 26 (previously presented): The image processing system according to claim 22, wherein said exception processing means also performs exception processing in which a final image frame after exclusion of a blank scene detected at the end of the dynamic image by said detecting means is deemed a scene-change frame.

Claim 27 (canceled)

Claim 28 (previously presented): The image processing system according to claim 24, wherein said exception processing means also performs exception processing in which a final image frame after exclusion of a blank scene detected at the end of the dynamic image by said detecting means is deemed a scene-change frame.

Claim 29 (canceled)

Claim 30 (previously presented): The image processing system according to claim 26, wherein when a time duration for each scene-change frame of two scenes in close proximity is less than the specified duration, frame information from a scene-change frame of the first scene and frame information through a frame from the scene-change frame of the second scene are treated as the result of merging of the scene-change frames of the two scenes into one scene whose duration is equal to the specified duration.

Claim 31 (canceled)

Claim 32 (previously presented): The image processing system according to claim 28, wherein when a time duration for each scene-change frame of two scenes in close proximity is less than the specified duration, frame information from a scene-change frame of the first scene and frame information through a frame from the scene-change frame of the second scene are treated as the result of merging of the scene-change frames of the two scenes into one scene whose duration is equal to the specified duration.

Claim 33 (canceled)

Claim 34 (previously presented): The image processing system according to claim 30, wherein when the duration of the scene-change frame of the second scene to be merged falls within a specified duration of the scene-change frame of the first scene, all the frame information of the scene-change frame of the second scene are merged with the scene-change frame of the first scene.

Claim 35 (canceled)

Claim 36 (previously presented): The image processing system according to claim 32, wherein when the duration of the scene-change frame of the second scene to be merged falls within a specified duration of the scene-change frame of the first scene, all the frame information of the scene-change frame of the second scene are merged with the scene change frame of the first scene.

Claim 37 (canceled)

Claim 38 (previously presented): The image processing system according to claim 34, wherein when a mode has been indicated which provides a target duration for the completed digest dynamic image, a digest having a duration in the vicinity of the target duration is prepared by first finding all of the scene-change frames of the dynamic image, and then performing processing for merging scenes into the digest, preferentially beginning with scenes whose scene-change frame has a low degree of similarity to the immediately preceding frame or some preceding frames.

Claim 39 (canceled)

Claim 40 (previously presented): The image processing system according to claim 36, wherein when a mode has been indicated which provides a target duration for the completed digest dynamic image, a digest having a duration in the vicinity of the target

duration is prepared by first finding all of the scene-change frames of the dynamic image, and then performing processing for merging scenes into the digest, preferentially beginning with scenes whose scene-change frame has a low degree of similarity to the immediately preceding frame or some preceding frames.

Claim 41 (canceled)

Claim 42 (original): The image processing system according to claim 38, wherein when there are few scene changes, and the digest dynamic image is more than a certain threshold value shorter than the indicated duration, a digest having a duration in the vicinity of the target duration is prepared by gradually increasing the specified duration for addition of each scene.

Claim 43 (canceled)

Claim 44 (original): The image processing system according to claim 40, wherein when there are few scene changes, and the digest dynamic image is more than a certain threshold value shorter than the indicated duration, a digest having a duration in the vicinity of the target duration is prepared by gradually increasing the specified duration for addition of each scene.

Claim 45 (canceled)

Claim 46 (original): The image processing system according to claim 42, wherein for a dynamic image for which no scene change has been detected, if there is a blank scene at the beginning of the dynamic image, the blank scene is excluded, and frames are extracted from the first non-blank scene for the target duration and treated as the digest dynamic image.

Claim 47 (canceled)

Claim 48 (original): The image processing system according to claim 44, wherein for a dynamic image for which no scene change has been detected, if there is a blank scene at the beginning of the dynamic image, the blank scene is excluded, and frames are extracted from the first non-blank scene for the target duration and treated as the digest dynamic image.

Claim 49 (canceled)

Claim 50 (original): The image processing system according to claim 18, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 51 (canceled)

Claim 52 (original): The image processing system according to claim 20, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 53 (canceled)

Claim 54 (original): The image processing system according to claim 22, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 55 (canceled)

Claim 56 (original): The image processing system according to claim 24, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 57 (canceled)

Claim 58 (original): The image processing system according to claim 26, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 59 (canceled)

Claim 60 (original): The image processing system according to claim 28, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 61 (canceled)

Claim 62 (original): The image processing system according to claim 30, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 63 (canceled)

Claim 64 (original): The image processing system according to claim 32, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 65 (canceled)

Claim 66 (original): The image processing system according to claim 34, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 67 (canceled)

Claim 68 (original): The image processing system according to claim 36, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 69 (canceled)

Claim 70 (original): The image processing system according to claim 38, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 71 (canceled)

Claim 72 (original): The image processing system according to claim 40, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 73 (canceled)

Claim 74 (original): The image processing system according to claim 42, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 75 (canceled)

Claim 76 (original): The image processing system according to claim 44, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 77 (canceled)

Claim 78 (original): The image processing system according to claim 46, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 79 (canceled)

Claim 80 (original): The image processing system according to claim 48, wherein a user is able to select and specify whether to save a digest as a file, or replay the digest and discard the data.

Claim 81 (canceled)

Claim 82 (previously presented): An image processing method comprising the steps of:

calculating a degree of similarity from among a plurality of image frames of dynamic image data;

determining scene-change frames based on the calculated degree of similarity; and

performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging from each scene delimited by a scene change a specified duration of frames having a low degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a dynamic digest.

Claim 83 (canceled)

Claim 84 (previously presented): An image processing method comprising the steps of:

calculating a degree of similarity from among a plurality of image frames of dynamic image data;

determining scene-change frames based on the calculated degree of similarity; and

performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging from each scene delimited by a scene change a specified duration of frames having a high degree of similarity with an immediately preceding frame or some preceding frames pm receipt of instructions to prepare a quiet digest.

Claim 85 (canceled)

Claim 86 (previously presented): The image processing method according to claim 82, further comprising the steps of:

detecting blank scenes; and
performing exception processing in which an initial image frame after exclusion of a blank scene detected at the beginning of the dynamic image in said detecting step is deemed a scene-change frame.

Claim 87 (canceled)

Claim 88 (previously presented): The image processing method according to claim 84, further comprising the steps of:

detecting blank scenes; and
performing exception processing in which an initial image frame after exclusion of a blank scene detected at the beginning of the dynamic image in said detecting step is deemed a scene-change frame.

Claim 89 (canceled)

Claim 90 (previously presented): The image processing method according to claim 86, further comprising the step of:

performing exception processing in which a final image frame after exclusion of a blank scene detected at the end of the dynamic image in said detecting step is deemed a scene-change frame.

Claim 91 (canceled)

Claim 92 (previously presented): The image processing method according to claim 88, further comprising the step of:

performing exception processing in which a final image frame after exclusion of a blank scene detected at the end of the dynamic image in said detecting step is deemed a scene-change frame.

Claim 93 (canceled)

Claim 94 (currently amended): The image processing method according to claim 90, wherein when a time duration for each scene-change frame of two scenes in close proximity is less than the specified duration, frame information from a scene-change frame of the first scene and frame information through a frame from the scene-change frame of the second scene are treated as the result of merging of the scene-change frames of the two scenes into one scene whose duration is $[[eq]]$ equal to the specified duration.

Claim 95 (canceled)

Claim 96 (previously presented): The image processing method according to claim 92, wherein when a duration for each between scene-change frame of two scenes in close proximity is less than the specified duration, frame information from a scene-change frame of the first scene and frame information through a frame from the

scene-change frame of the second scene are treated as the result of merging of the scene-change frames of the two scenes into one scene whose duration is equal to the specified duration.

Claim 97 (canceled)

Claim 98 (previously presented): The image processing method according to claim 94, wherein when the duration of the scene-change frame of the second scene to be merged falls within a specified duration of the scene-change frame of the first scene, all the frame information of the scene-change frame of the second scene are merged with the scene-change frame of the first scene.

Claim 99 (canceled)

Claim 100 (previously presented): The image processing method according to claim 96, wherein when the duration of the scene-change frame of the second scene to be merged falls within a specified duration of the scene-change frame of the first scene, all the frame information of the scene-change frame of the second scene are merged with the scene-change frame of the first scene.

Claim 101 (canceled)

Claim 102 (previously presented): The image processing method according to claim 98, wherein when a mode has been indicated which provides a target duration for the completed digest dynamic image, a digest having a duration in the vicinity of the target duration is prepared by first finding all of the scene-change frames of the dynamic image, and then performing processing for merging scenes into the digest, preferentially beginning with scenes whose scene-change frame has a low degree of similarity to the immediately preceding frame or some preceding frames.

Claim 103 (canceled)

Claim 104 (previously presented): The image processing method according to claim 100, wherein when a mode has been indicated which provides a target duration for the completed digest dynamic image, a digest having a duration in the vicinity of the target duration is prepared by first finding all of the scene-change frames of the dynamic image, and then performing processing for merging scenes into the digest, preferentially beginning with scenes whose scene-change frame has a low degree of similarity to the immediately preceding frame or some preceding frames.

Claim 105 (canceled)

Claim 106 (original): The image processing method according to claim 102, wherein when there are few scene changes, and the digest dynamic image is more than a certain threshold value shorter than the indicated duration, a digest having a duration in

the vicinity of the target duration is prepared by gradually increasing the specified duration for addition of each scene.

Claim 107 (canceled)

Claim 108 (original): The image processing method according to claim 104, wherein when there are few scene changes, and the digest dynamic image is more than a certain threshold value shorter than the indicated duration, a digest having a duration in the vicinity of the target duration is prepared by gradually increasing the specified duration for addition of each scene.

Claim 109 (canceled)

Claim 110 (original): The image processing method according to claim 106, wherein for a dynamic image for which no scene change has been detected, if there is a blank scene at the beginning of the dynamic image, the blank scene is excluded, and frames are extracted from the first non-blank scene for the target duration and treated as the digest dynamic image.

Claim 111 (canceled)

Claim 112 (original): The image processing method according to claim 108, wherein for a dynamic image for which no scene change has been detected, if there is

a blank scene at the beginning of the dynamic image, the blank scene is excluded, and frames are extracted from the first non-blank scene for the target duration and treated as the digest dynamic image.

Claim 113 (canceled)

Claim 114 (previously presented): A recording medium recording program code of an image processing method comprising the steps of:

calculating a degree of similarity from among a plurality of image frames of dynamic image data;

determining scene-change frames based on the calculated degree of similarity; and

performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging from each scene delimited by a scene change a specified duration of frames having a low degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a dynamic digest.

Claim 115 (previously presented): A recording medium recording program code of an image processing method comprising the steps of:

calculating a degree of similarity from among a plurality of image frames of dynamic image data;

determining scene-change frames based on the calculated degree of similarity; and

performing automatic editing and preparation of a digest dynamic image of the dynamic image data by merging from each scene delimited by a scene change a specified duration of frames having a high degree of similarity with an immediately preceding frame or some preceding frames on receipt of instructions to prepare a quiet digest.